UC WIRELESS SYSTEM
User Guide

SYSTEME SANS FIL UC
Guide de l’Utilisateur

UC–DRAHTLOSSYSTEM
Bedienungsanleitung

SISTEMA INALAMBRICO UC
Guía del Usuario

SISTEMA SENZA FILI UC
Guida dell’Utente

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NOTE: Operation of this device is subject to the following two conditions:

(1) this device may not cause interference, and

(2) this device must accept interference, including interference that may cause undesired operation of the device.

QUICK SETUP GUIDE FOR THE SHURE UC WIRELESS SYSTEM

UC4 Receiver Setup

1. Plug the dc power supply into the power connector on the back of the receiver. Connect the other end of the power supply into an electrical outlet. (This power supply is for indoor use only.)
2. Attach the two antennas to the ANTENNA IN BNC connectors.
3. Connect audio cable(s) from the UC4 audio output(s) into the audio input(s) of the mixer and/or amplifier.
4. If you are using a handheld microphone system or lavalier microphone system, move the receiver MIC/LINE switch to the MIC position. If you are using an instrument system, move the MIC/LINE switch to the LINE position. Make sure the receiver settings match the input settings on the mixer.
5. Turn the receiver on.

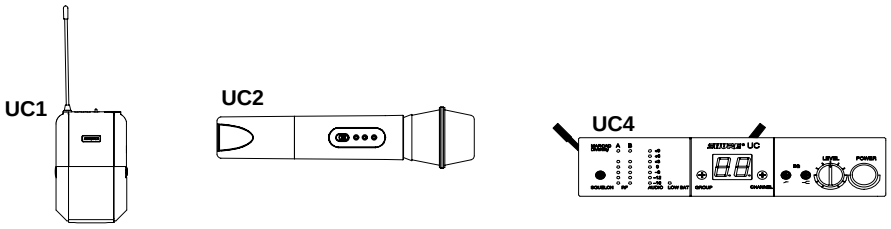
   Note: If you encounter RF interference, change the Group and Channel setting using the supplied screwdriver. Refer to the supplement for additional frequency information.
6. Set the OUTPUT LEVEL CONTROL to maximum (fully clockwise).

UC1/UC2 Transmitter Setup

1. Open the battery cover and insert a fresh 9V alkaline battery.
2. Make sure the transmitter Group and Channel settings match those of the receiver. If they do not, use a screwdriver to rotate the Group and Channel switches clockwise to increase the setting or counterclockwise to decrease the setting.
3. If you are using a UC1 transmitter with a lavalier microphone, make sure the Attenuator switch is set to the 0 dB position. If you are using a UC1 transmitter with an instrument adapter cable, set the Attenuator switch to the –20 dB position.
4. Close the battery cover.

System Operation

1. Turn the transmitter on and speak into the microphone or play your instrument. The RF and audio LEDs on the receiver should illuminate, indicating that it is receiving the transmitter signal.
2. Adjust the transmitter gain until the yellow LEDs on the receiver light up as you speak into the microphone or play your instrument. The red LEDs should light up when you speak or play your instrument loudly.



UC WIRELESS SYSTEM COMPONENTS

FIGURE 1

SYSTEM DESCRIPTION

The Shure UC Wireless System is a frequency–agile, diversity wireless system operating in the UHF band. Both the receiver and the transmitter are microprocessor controlled by Phase Locked Loop (PLL) circuitry for a clear, steady signal. The receiver is half–rack sized and can be mounted in a standard 19 inch (482 mm) audio equipment rack. Each Shure UC Wireless System includes the following components:

UC1 Body-Pack Transmitter with your choice of lavalier microphone, headworn microphone, instrument microphone or cable,

or

UC2 Hand-Held Microphone-Transmitter with your choice of interchangeable microphone heads, including:

- SM58® cardioid dynamic microphone
- BETA 58A® supercardioid premium dynamic microphone
- SM87 supercardioid condenser microphone
- BETA 87A supercardioid or BETA 87C cardioid premium condenser microphone

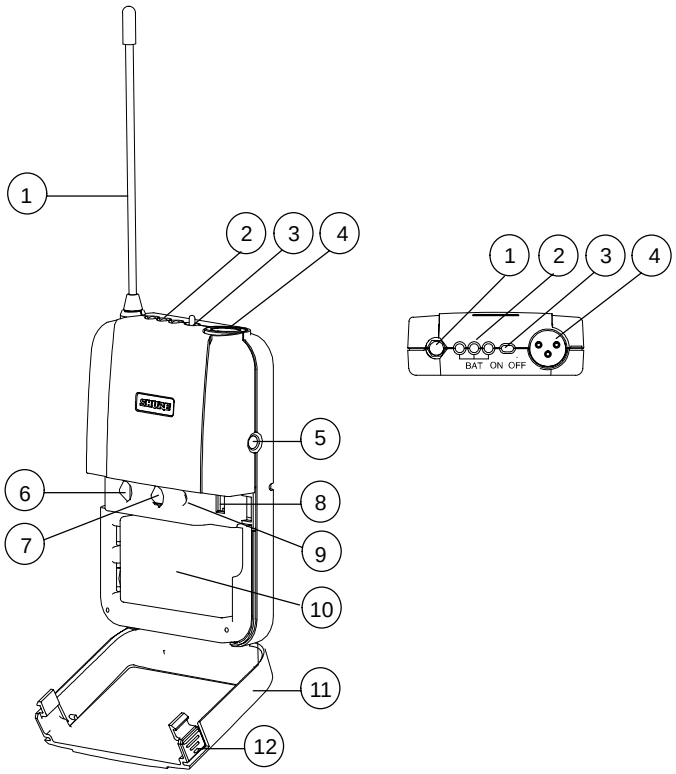
and a

UC4 Diversity Receiver with power supply, antennas, and rack-mounting hardware.

Accessories include a Remote Audio Mute Switch for body pack transmitters, an Antenna Distribution System, a Passive Antenna Splitter/Combiner, and Front/Remote Antenna Mounting Hardware. All accessories are available separately.

SYSTEM FEATURES

- **UHF Band Operation.** The Shure UC System operates within the UHF frequency band, which is less congested than the VHF band. Typically, UHF systems encounter less interference than VHF systems.
- **Frequency Agility.** The UC transmitter and receiver frequencies can be changed to avoid RF interference. This ensures interference–free operation, even in the most congested RF environments.
- **1/2 Rack Receiver Design.** The UC4 receiver interfaces with the HR (half–rack) format to save rack space. The UC4 receiver is supplied with hardware for single and dual rack mounting.
- **MARCAD Diversity.** Exclusive Shure MARCAD (MAximum Ratio Combining Audio Diversity) circuitry monitors signals from both receiver sections and combines them into a single output signal. MARCAD provides superior reception and exceptional freedom from dropouts.
- **Built–in Equalizer (On Receiver).** Lets you tailor frequency response to match other devices in the system.
- **Tone Key Squelch Circuitry**. Prevents unwanted noise from entering the system, including the “pop” noise that occurs when the transmitter is turned on or off.
- **Noise Squelch Circuitry.** Analyzes signal quality rather than signal strength, virtually eliminating the possibility of annoying noise bursts.
- **Dual RF Meters (On Receiver).** Indicate received signal strength at each antenna, making it easier to identify “dead spots” in the performing area.
- **Audio Meter (On Receiver).** Lets you monitor received audio level and helps you optimize the transmitter gain setting.
- **Logic In/Out Terminal (On Receiver).** Provides logic interface with external devices.
- **Preconfigured Group/Channel and Frequency Setup.** Ensures frequency compatibility and simplifies installation of multiple UC systems. A “Group” is a preconfigured set of frequencies or channels that do not interfere with one another.
- **Optional Remote Mute feature on body–pack.** Lets you externally mute body pack transmitter during performance.

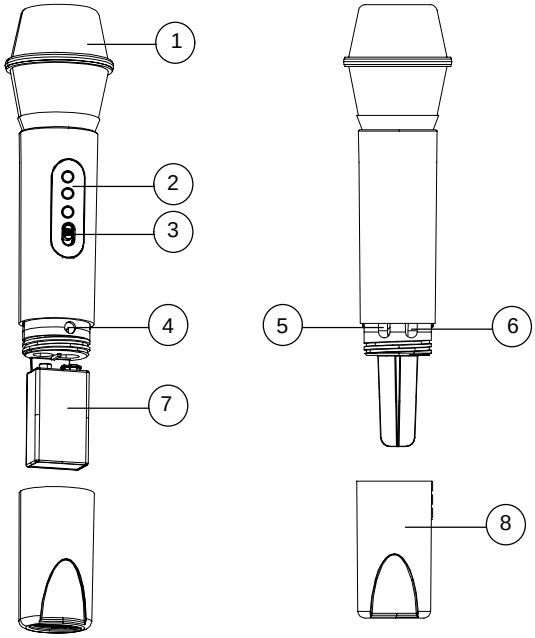


UC1 BODY PACK TRANSMITTER FEATURES AND CONTROLS

FIGURE 2

UC1 TRANSMITTER FEATURES AND CONTROLS

1. **Antenna.** A flexible 1/4 wave whip antenna is permanently attached to the top of the UC1 Body–Pack transmitter.
2. **Power/Battery Fuel Gauge.** When the Power switch is in the ON position, one of the three LEDs will glow, indicating that the transmitter is on. The LED color indicates the amount of battery life remaining. Refer to the “Checking the Transmitter Battery” paragraph.
3. **ON/OFF Switch.** Turns transmitter power on and off.
4. **Input Connector (LEMO connector optional).** This TA4F mini-connector provides connection with a variety of lavalier, instrument and headset microphones and cables. LEMO connectors are available as an option.
5. **Remote Mute Switch Input Connector.** When used with the optional Shure UA101 Remote Mute Switch, this 3.5 mm connector lets you remotely mute the body pack during a performance.
6. **Group Setting Control (Red Switch).** Rotating this switch clockwise advances the Group setting. Rotating it counterclockwise decreases the Group setting. Use the supplied screwdriver (Xcelite R3322 or equivalent) to make adjustments.
7. **Channel Setting Control (Green Switch).** Rotating this switch clockwise advances the Channel setting. Rotating it counterclockwise decreases the Channel setting. Use the supplied screwdriver (Xcelite R3322 or equivalent) to make adjustments.
8. **Input Attenuation Control.** This two position switch lets you select either 0 dB or –20 dB attenuation, depending on the input source and application. Use the 0 dB position for normal applications including voice, and low output instruments. Use the 20 dB pad position for high output instruments such as electric guitars with active electronics.
9. **Audio Gain Control.** Changes the audio level to accommodate various sound sources (e.g. singing, speaking, or musical instrument). Use the supplied screwdriver (Xcelite R3322 or equivalent) to make adjustments. Refer to the “Adjusting the Transmitter Gain Level” paragraph.
10. **Battery Compartment.** Holds one 9V battery.
11. **Battery Compartment Cover.** Hinged cover on front surface opens to expose the battery and Group/Channel, Gain, and Attenuation controls.
12. **Battery Cover Release Tabs.** Squeeze these two tabs together to release the battery cover.
13. **Belt Clip (not shown).** Allows the transmitter to be worn on a belt, waistband, or guitar strap. The belt clip can be rotated 180°.

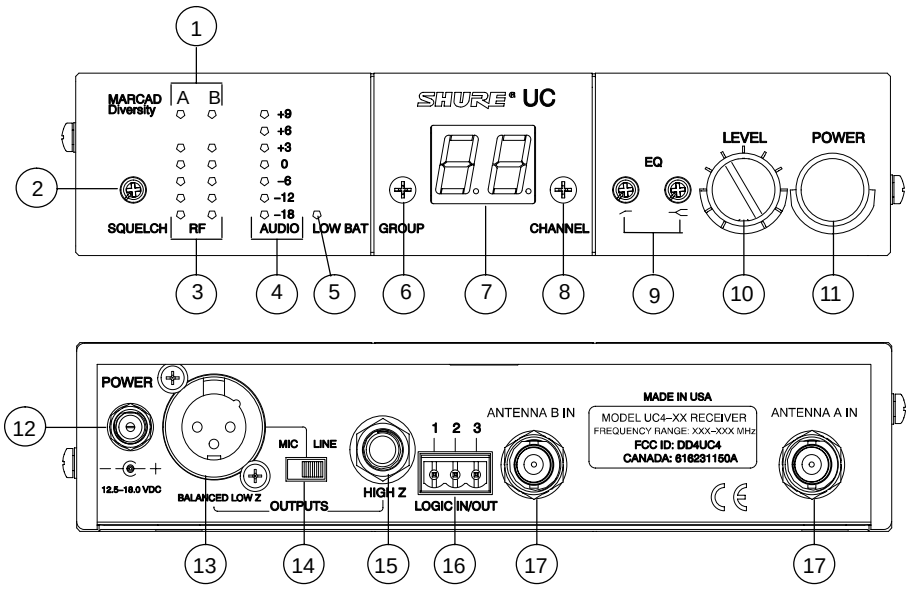


UC2 HAND–HELD TRANSMITTER FEATURES AND CONTROLS

FIGURE 3

UC2 TRANSMITTER FEATURES AND CONTROLS

1. **Grille.** Protects the microphone cartridge and helps reduce breath sounds and wind noise. The grilles for the various microphone heads differ in appearance.
2. **Power Indicator/Battery Fuel Gauge.** When the UC2 is turned on, one of three LEDs will glow, indicating that power is on and the amount of battery life remaining. Refer to the “Checking Transmitter Battery” paragraph for more information on battery life.
3. **Power Switch.** Turns the transmitter on and off.
4. **Audio Gain Control.** Changes the audio level to accommodate various sound sources (e.g. singing or speaking). Use the supplied screwdriver (Xcelite R3322 or equivalent) to make adjustments. Refer to the “Adjusting the Transmitter Gain Level” paragraph.
5. **Group Setting Control (Red Switch).** Rotating this switch clockwise advances the Group setting. Rotating it counterclockwise decreases the Group setting. Use the supplied screwdriver (Xcelite R3322 or equivalent) to change the setting.
6. **Channel Setting Control (Green Switch).** Rotating this switch clockwise advances the Channel setting. Rotating it counterclockwise decreases the Channel setting. Use the supplied screwdriver (Xcelite R3322 or equivalent) to make adjustments.
7. **9 V Battery.** Provides power to the transmitter and microphone.
8. **Battery Cover.** Unscrews to expose battery and Group, Channel, Gain, and Attenuation controls.



UC4 RECEIVER CONTROLS AND INDICATORS

FIGURE 4

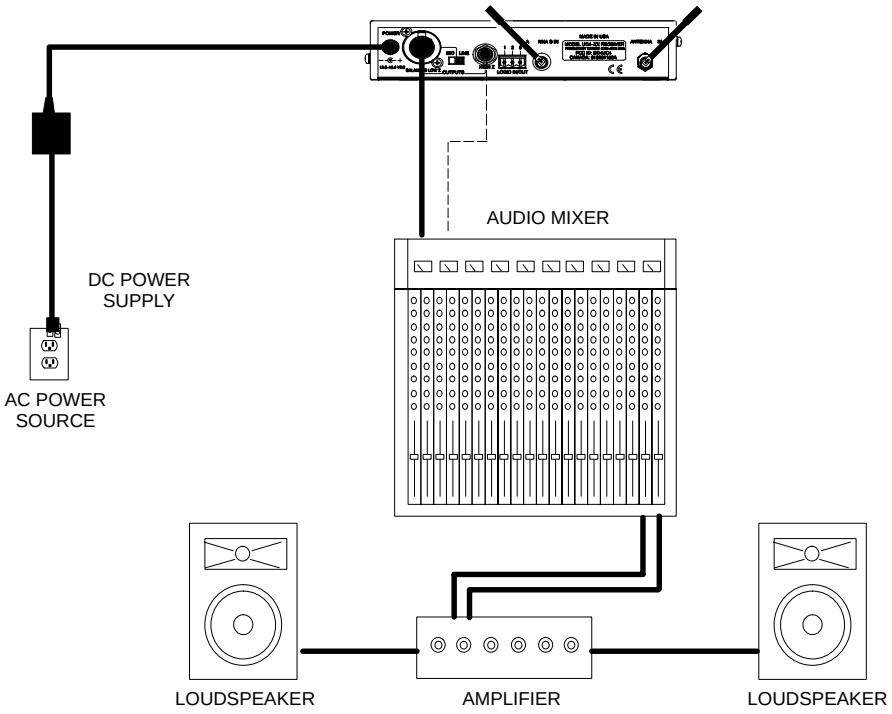
UC4 RECEIVER CONTROLS AND CONNECTORS

1. **A/B Diversity Signal Indicators**. Indicate presence of received RF signal and diversity status.
2. **Squelch Control.** Sets the point at which the receiver "mutes" when the transmitter signal becomes noisy, weak, or fails. This control is factory-set at the 12 o'clock position.
3. **RF Level Indicators**. Indicate RF signal strength. The more LEDs that glow, the stronger the received signal. If none of these LEDs glow, no signal is being received.
4. **Audio Level Indicators.** Indicate transmitted audio signal strength. Green indicates normal operation. Amber indicates approaching overload condition. Red indicates excessive audio levels.
5. **Low Transmitter Battery Level Warning Indicator.** This LED glows when the transmitter battery level is low. Refer to the "Checking Transmitter Batteries" section.
6. **Group Setting Control.** Rotate this switch clockwise to advance the Group setting, or rotate it counterclockwise to decrease the setting. Use the supplied screwdriver to make adjustments.
7. **Group/Channel Display.** Indicates the current Group and Channel settings.
8. **Channel Setting Control.** Rotate this switch clockwise to advance the Channel setting, or rotate it counterclockwise to decrease the setting. Use the supplied screwdriver to make adjustments.
9. **Low Frequency Cut and High Frequency Shelving Equalization Controls.** Adjustable low–frequency roll off (high pass) reduces undesirable low–frequency signals. The level boost or cut in the mid to high–frequency region compensates for off–axis lavalier microphones and adjusts the sibilance of vocal microphones.
10. **Audio Output Control.** Adjusts the receiver output level to match the required input levels of a mixer or amplifier. Normally, this control is set fully clockwise.
11. **Power On/Off Switch.** Turns the receiver on and off.
12. **Power Connector.** Accepts power from the supplied AC adapter, or from any filtered 15–18 Vdc (600 mA minimum) supply. It also accepts the dc power cord from a Shure UA845 Antenna Distribution System.
13. **Low Z (balanced) Output Connector.** XLR connector provides balanced low–impedance mic level or line level output.
14. **Mic/Line Slide Switch.** Controls output of balanced XLR connector. It can be set for microphone (–14 dBu) or line–level (+16 dBu).
15. **High Z (unbalanced) Output Connector.** This 1/4 inch phone jack provides unbalanced high impedance auxiliary level output.
16. **TTL Logic Output Terminal.** This "Phoenix Style" connector lets you control external devices based on the status of the UC System.
17. **Antenna Input Connectors.** BNC–type connectors provide connection to the supplied antennas or to the coaxial cable used with a distribution amplifier.

RECEIVER CABLE CONNECTIONS

1. Connect the receiver output to the mixer or amplifier input, using a standard audio cable with a female 3–pin XLR connector or 1/4" phone plug. Refer to Figure 5.
2. Connect the AC power adapter to the POWER jack on the rear panel of the receiver.
3. Plug the AC adapter into an AC power source.

Power Supply Model	Power Type
PS40	90–120 VAC, 60 Hz
PS40E	230 VAC, 50/60 Hz
PS40UK	230 VAC, 50/60 Hz
PS40J	100 VAC, 50/60 Hz



TYPICAL UC4 RECEIVER CABLING CONFIGURATION

FIGURE 5

NOTE: If a receiver is rack mounted, RF performance can be improved by remotely locating the antennas. Diversity performance can be improved by placing one or both antennas at a remote location and separating them by at least 1.5 meters (60 in.). Use UA825 or UA850 Extension Cable kits or other low–loss cable (RG8 or equivalent) with remote antennas. Do not use the supplied 1/4 wave antennas at remote locations. Use only UA820A 1/2 wave antennas for remote installation.

TRANSMITTER SETUP

Checking the Transmitter Battery

Turn the transmitter ON/OFF switch to the ON position and verify that one of the LEDs glow. The amount of battery life remaining is indicated by which LED is lit, as shown in the following table:

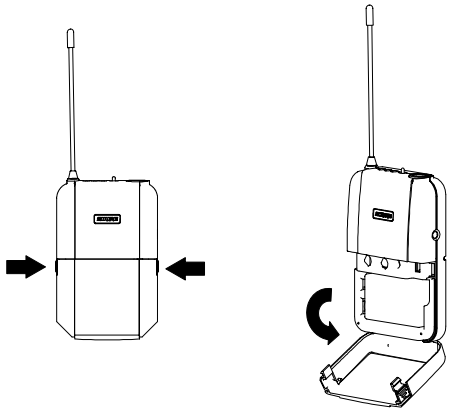
Transmitter LED Color	Receiver LED Color	Remaining Transmitter Operating Time
Green	—	2 to 8 hours
Amber	—	45 minutes to 2 hours
Red	Red	45 minutes or less

*Estimated operating time assumes the use of a fresh 9V alkaline battery.

NOTE: If extended performance time is required, use an Ultralife 9V lithium battery, which can last more than twice as long as an alkaline battery. A rechargeable 8.4V nicad battery will cause the indicators to change more quickly than if a 9V alkaline battery is used. Carbon-zinc and zinc-chloride batteries will not provide adequate power and are not recommended. Actual times depend on the type and brand of battery used.

Changing the UC1 Transmitter Battery

1. Make sure the transmitter power ON/OFF switch is in the OFF position.
2. Open the transmitter battery compartment by squeezing the two tabs on either side of the transmitter. Then flip the battery cover down. Refer to Figure 6.
3. Lift up on the edge of the battery remove it.
4. Insert a new 9V battery in the compartment. Maintain proper battery polarity (”+/–”).

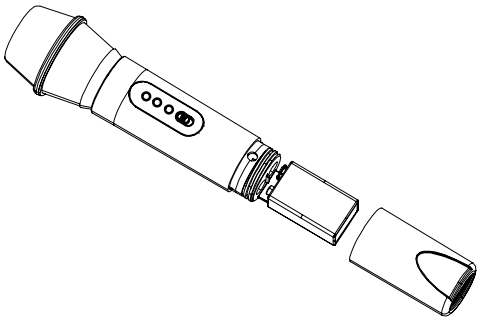


CHANGING THE UC1 TRANSMITTER BATTERY

FIGURE 6

Changing the UC2 Transmitter Battery

1. Make sure the transmitter power ON/OFF switch is in the OFF position.
2. Unscrew the battery cover.
3. Pull down on the old battery and remove it. Refer to Figure 7.
4. Install a fresh 9V alkaline battery. Make sure the battery terminals match the terminals in the transmitter. Screw the battery cover back into place.

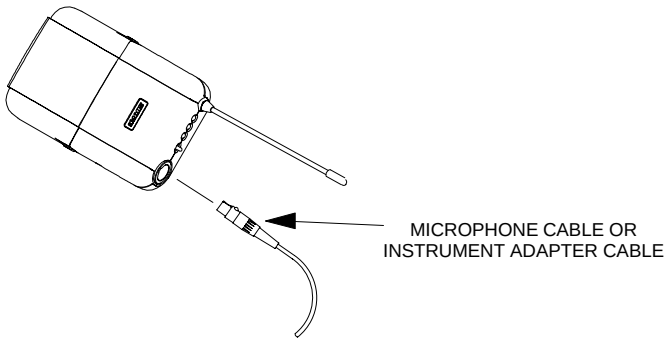


CHANGING THE UC2 TRANSMITTER BATTERY

FIGURE 7

OPERATING THE UC1 BODY–PACK SYSTEM

1. Clip the UC1 body–pack transmitter to your belt, waistband, or guitar strap.
2. Connect the lavalier microphone, headset microphone, WM98 microphone, or instrument adapter cable to the UC1 transmitter, as shown in Figure 8.

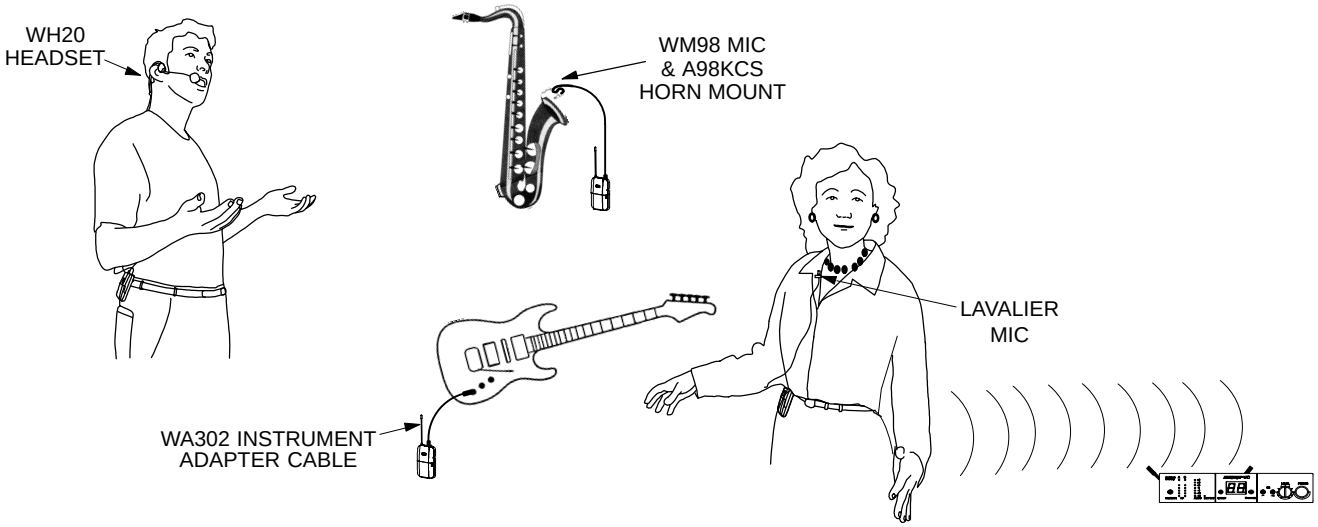


CONNECTING A MICROPHONE OR INSTRUMENT ADAPTER CABLE TO THE UC1 TRANSMITTER

FIGURE 8

3. If you are using a lavalier microphone, clip it to your tie, lapel, or other garment. For best results, the microphone should be 15 to 20 cm (6 to 8 in.) below your chin.
4. If you are using an instrument adapter cable, plug it into the instrument.
5. If you are using a WM98 condenser mic, install it onto the Shure A98KCS Horn Mount assembly attached to the bell of your horn. Refer to Figure 9.
6. Slide the transmitter ON/OFF switch to the ON position. One of the three transmitter LEDs will glow. If none of the LEDs glow, change the battery.
7. Turn the receiver on by pushing the ON button. The receiver LED display and RF LEDs will glow.
8. Make sure the transmitter and receiver are tuned to the same Group and Channel. If necessary, change the settings on either the transmitter or receiver.
9. Begin speaking or playing your instrument. Rotate the OUTPUT LEVEL knob on the receiver as necessary to achieve desired receiver output levels. (This does not affect the audio LED status.)

   NOTE: If the red PEAK LEDs on the receiver do not flicker during the loudest sounds, or if they are always on, the transmitter gain may need to be increased or decreased. Refer to the “Adjusting the Transmitter Audio Gain Level” paragraph. If the system still does not operate properly, consult the “Troubleshooting” table included in this manual.
10. When the performance or presentation is over, slide the transmitter ON/OFF switch to the OFF position to conserve battery power.



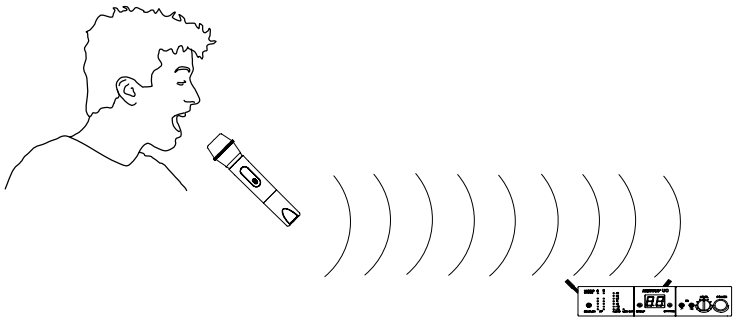
OPERATING THE BODY–PACK SYSTEM

FIGURE 9

OPERATING THE UC2 HAND-HELD SYSTEM

1. Slide the transmitter power ON/OFF switch to the ON position. One of the three transmitter LEDs will glow. If none of the LEDs glow, change the battery.
2. Turn the receiver on by pushing the ON button. The receiver LED display and RF LEDs will glow.
3. Make sure the transmitter and receiver are tuned to the same Group and Channel. If necessary, change the settings on either the transmitter or receiver.
4. Begin speaking or singing into the microphone. Rotate the OUTPUT LEVEL knob on the receiver as necessary to achieve the desired receiver output level. (This does not affect the audio LED status.) See Figure 10.

   NOTE: If the red PEAK LEDs on the receiver do not flicker during the loudest sounds, or if they are always on, the transmitter gain may need to be increased or decreased. Refer to the “Adjusting the Transmitter Audio Gain Level” paragraph. If the system still does not operate properly, consult the “Troubleshooting” table.
5. When the performance or presentation is over, slide the transmitter ON/OFF switch to the OFF position to conserve battery power.



OPERATING THE HANDHELD SYSTEM

FIGURE 10

CHANGING THE TRANSMITTER SETTINGS

Adjusting the Transmitter Gain Level

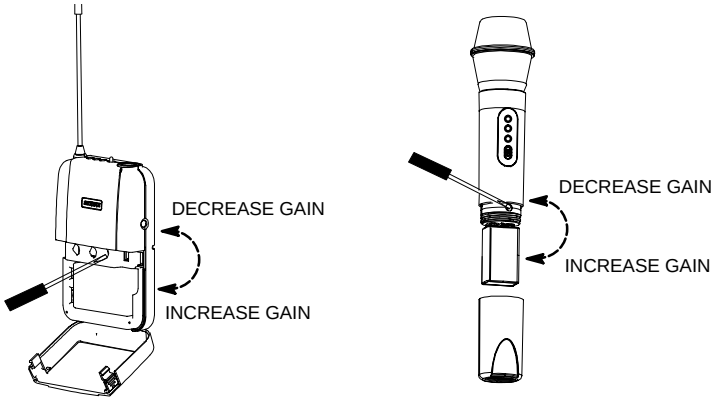
The transmitter audio gain level has been factory preset to provide satisfactory output in most applications. However, for loud singers or high–output musical instruments, the preset level may be too high, as indicated by constant glow of the red audio LED on the receiver. Soft spoken talkers or singers may find that the factory setting is too low, as indicated by the failure of the amber audio level LED on the receiver to glow at all.

To adjust audio gain, open the battery compartment and locate the transmitter audio gain control. Use the supplied screwdriver to make adjustments. See Figure 11.

For high sound pressure level applications, such as loud singing or playing, decrease audio gain level by rotating the gain control counterclockwise (while the microphone is in use) until the red audio level LEDs on the receiver flickers during the loudest sounds.

For low sound pressure level applications, such as soft singing or playing, increase audio gain level by rotating the gain control clockwise until the red audio level LEDs on the receiver flickers during the loudest sounds.

NOTE: For guitar applications, the minimum setting (full counterclockwise) is recommended. If you are using the Shure WH10TQG headset, rotate the gain control to the fully clockwise position. Then, if necessary, rotate it back slightly.



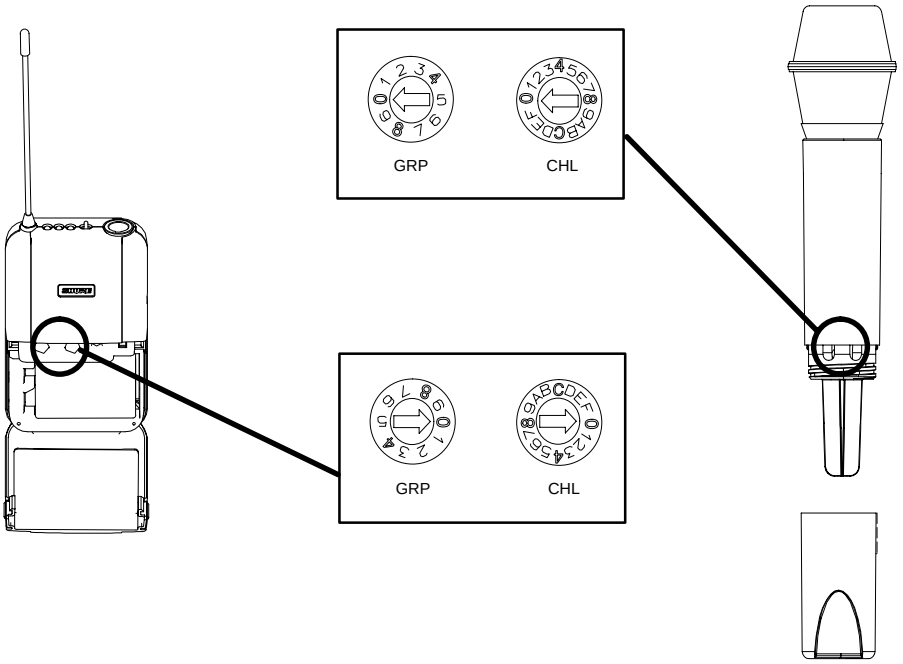
ADJUSTING THE TRANSMITTER GAIN LEVEL

FIGURE 11

Changing the Transmitter Group/Channel Settings

1. Turn the transmitter off and open the battery compartment to expose the GROUP and CHANNEL switches. Refer to Figure12 below.
2. Using the supplied screwdriver, rotate the GROUP switch until the desired setting is reached. Then rotate the CHANNEL switch until the the desired setting is reached.

IMPORTANT: Transmitter GROUP and CHANNEL settings must match receiver GROUP and CHANNEL settings.

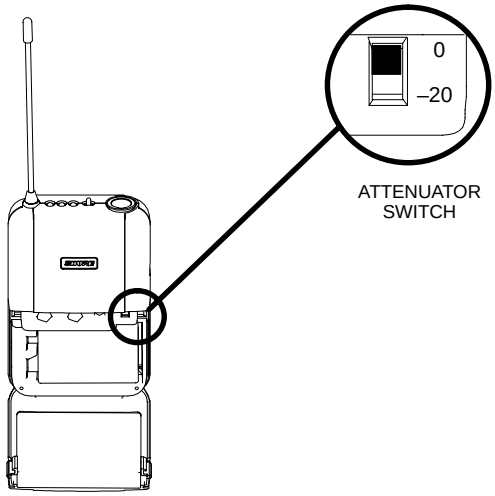


CHANGING THE TRANSMITTER GROUP/CHANNEL SETTINGS

FIGURE 12

Activating the UC1 Attenuator Switch

When using the UC1 transmitter with high output devices such as electric guitar or brass instruments, set the Attenuator switch to the –20 dB position. This will provide additional headroom and prevent unwanted clipping and distortion. See Figure 13 below.



ACTIVATING THE UC1 TRANSMITTER ATTENUATION SWITCH

FIGURE 13

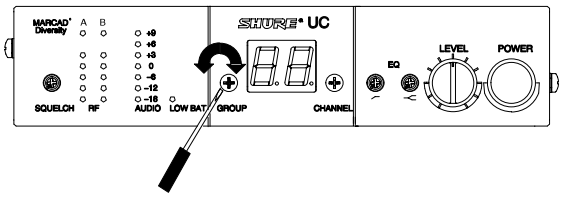
CHANGING RECEIVER SETTINGS

The receiver display identifies the operating frequency by Group and Channel. The character on the left represents the Group setting and the character on the right represents the Channel setting. Groups are preconfigured sets of frequencies or channels that work well together. A complete list of compatible Groups and Channels is included in the separate UC Wireless Frequency Compatibility Guide.

Changing the Receiver Group Setting

To advance the receiver Group setting, rotate the Group switch clockwise, using the supplied screwdriver. Rotate the switch counterclockwise to decrease the setting. The display will indicate the change. See Figure 14.

NOTE: A dash mark (—) indicates an unavailable Group.



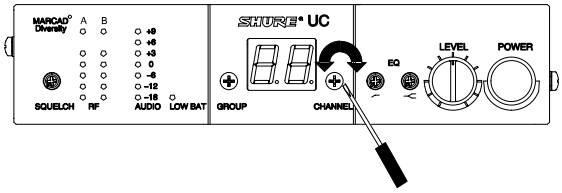
CHANGING THE UC4 RECEIVER GROUP SETTING

FIGURE 14

Changing the Receiver Channel Setting

Using the supplied screwdriver, rotate the Channel switch clockwise to increase the setting. Rotate it counterclockwise to decrease the setting. The display will indicate the change. See Figure 15.

NOTE: A dash mark (—) indicates an unavailable Channel.



CHANGING THE UC4 RECEIVER CHANNEL SETTING

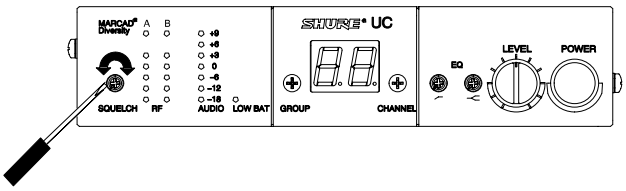
FIGURE 15

Adjusting the Receiver Squelch Setting

The receiver squelch control is factory preset at the 12 o'clock position for optimum performance. Normally, no further adjustment is required. However, it is possible to adjust the squelch control to improve either signal quality or increase system range.

To raise the squelch threshold, rotate the control clockwise. This causes the receiver to demand a higher quality signal (less noise before muting), but it reduces operating range. See Figure 16.

To lower the squelch threshold, rotate the control counterclockwise. This allows a lower quality signal through (more noise before muting), but it extends the operating range. See Figure 16.

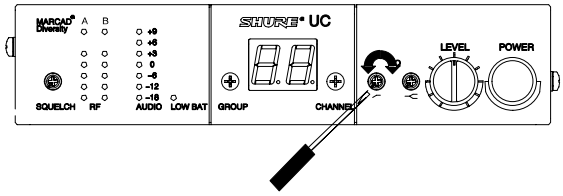


ADJUSTING THE UC4 RECEIVER SQUELCH SETTING

FIGURE 16

Adjusting the Equalizer Setting

The UC4 receiver incorporates a two band equalizer to help adjust the sound of the wireless system to match that of other wired and wireless products in an installation. See Figure 17.



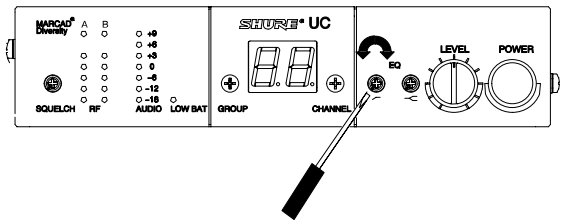
ADJUSTING THE UC4 RECEIVER EQUALIZER SETTING

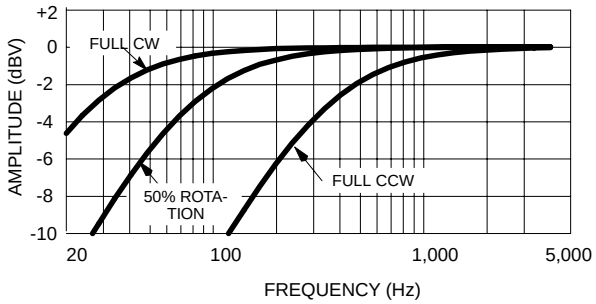
FIGURE 17

Adjusting the Low–Cut Filter (High Pass)

The low–cut (or high–pass) filter allows all frequencies above its cutoff point to pass from filter input to filter output without attenuation, while frequencies below its cutoff point are attenuated. See Figure 18. The cutoff point is defined as the frequency at which the signal has dropped 3 dB relative to the flat bandpass region. Below the cutoff point, the filter exhibits increasingly more attenuation as the frequency level drops. The rate at which this attenuation occurs is expressed in decibels per octave (dB/oct). The UC4 Receiver has a one–pole, low–cut filter of 6 dB per octave.

Low–cut filters are used to attenuate the audio signal when low frequency noise or excessive proximity effect is present. For example, the low–frequency vibration caused by wind, footsteps, and vehicular traffic can be transmitted through microphone stands to the microphone, and from there to the sound system. These low frequencies, typically ranging from 5 to 80 Hz, are generally not desirable.



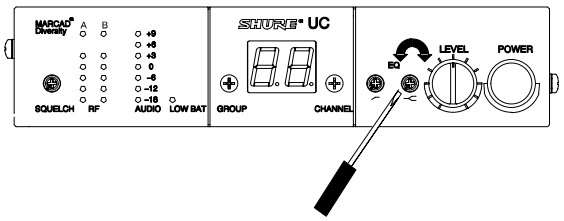


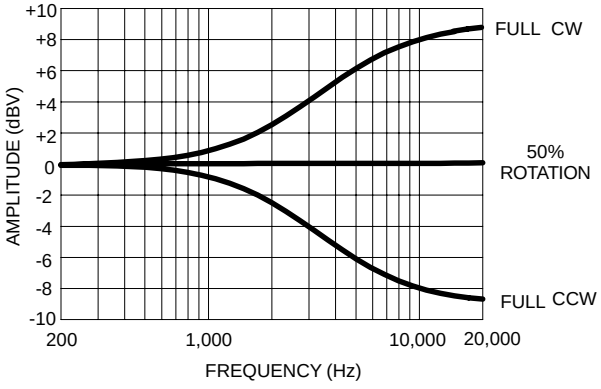
ADJUSTING THE LOW CUT FILTER

FIGURE 18

Adjusting for High–Frequency Shelving

The fixed frequency equalizer produces a 6 dB boost or cut at 5 kHz and above. See Figure 19. High–frequency shelving is extremely useful for boosting flat frequency response, softening sibilant vocal microphones, or enhancing the sound of off–axis lavalier microphones. See Figure 19.





ADJUSTING FOR HIGH FREQUENCY SHELVING

FIGURE 19

RECEIVER MOUNTING

Table Mounting

To mount a receiver on a table or other horizontal surface, attach the four adhesive bumpers to the bottom corners of the receiver and place the receiver on the mounting surface. See Figure 20.

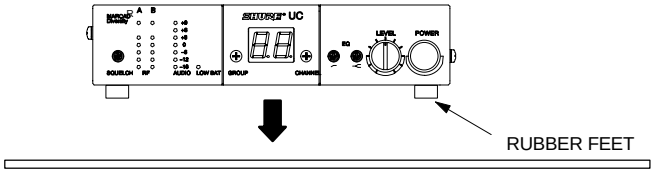


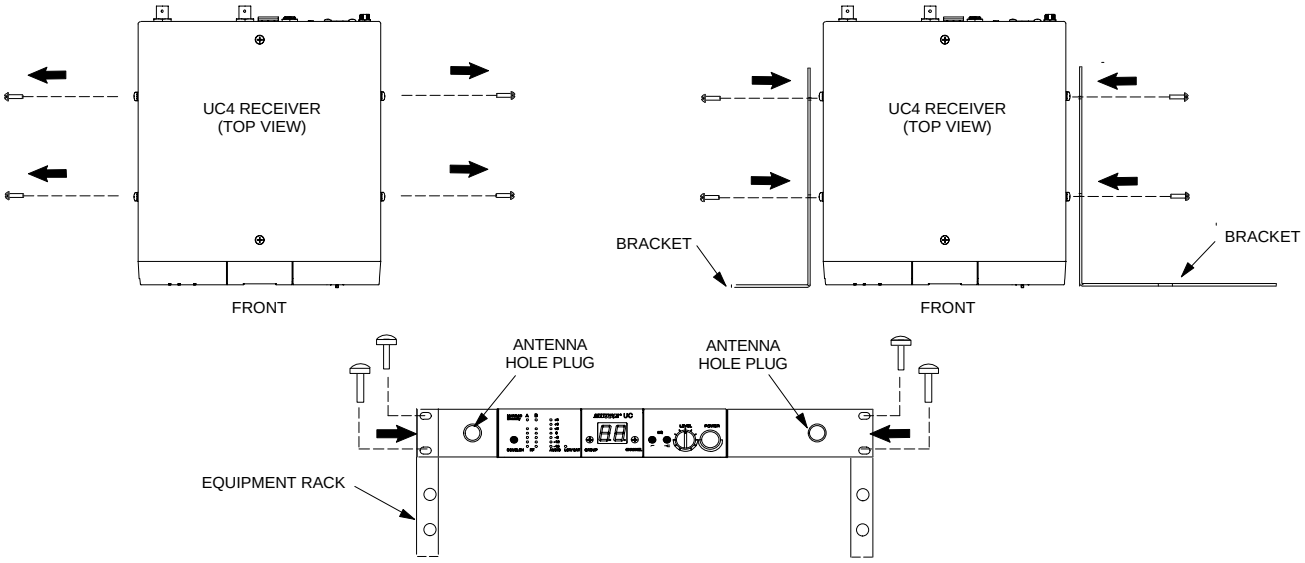
TABLE MOUNTING THE UC4 RECEIVER

FIGURE 20

Rack Mounting a Single Receiver

To mount a single receiver in an audio equipment rack, select the single rack mounting kit supplied with the system and proceed as follows:

1. Remove the two screws from each side of the receiver. See Figure 21.
2. Position the large mounting bracket over the holes on one side of the receiver and secure them with the screws removed in Step 1. One of the brackets will be longer than the other.



RACK MOUNTING A SINGLE UC4 RECEIVER

FIGURE 21

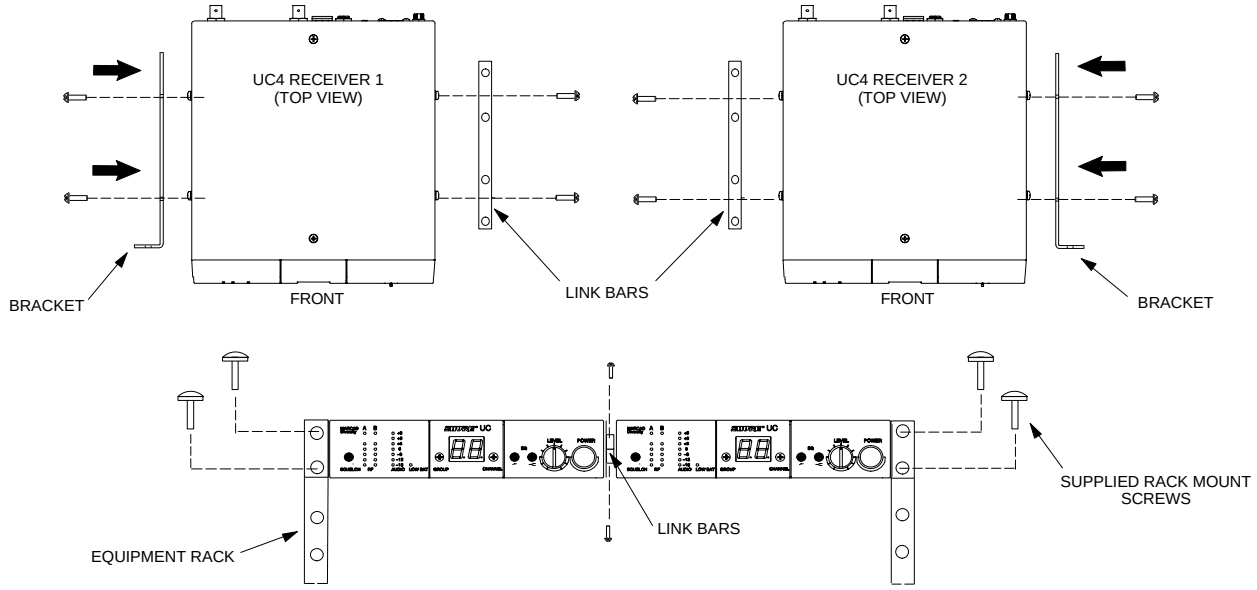
NOTE: If you are not front mounting the antennas with a UA600 Front Mount Conversion Kit, insert the plastic plugs into the bracket holes.

3. Secure the receiver to a 19-inch audio equipment rack, using the four supplied screws.

Rack Mounting Two Receivers Side by Side

To mount two receivers side by side in an equipment rack, select the double rack–mounting kit supplied with the system and proceed as follows:

1. Remove the two screws on the outer side of each receiver.
2. Position the small mounting brackets over the holes on the outer side of each receiver, and secure them with the screws removed in Step 1.
3. Remove the screws on the inner side of each receiver.
4. Place two link bars over the holes and secure them with the screws removed in Step 3. For the receiver on the left (Receiver 1 in Figure 22), the link bar should be positioned so that its threaded hole is toward the front of the receiver. For the receiver on the right (Receiver 2 in Figure 22), the link bar should be positioned so that its threaded hole is toward the rear of the receiver. See Figure 22.
5. Place the two receivers next to each other so that the threaded holes in the link bars line up, one on top of the other.
6. Fasten the receivers together by inserting a small screw from the top into the threaded hole at the front of the link bar. Then insert the other screw from the bottom into the threaded hole at the rear of the link bar.
7. Secure the receivers to a standard audio equipment rack, using four supplied screws.



RACK MOUNTING TWO UC4 RECEIVERS

FIGURE 22

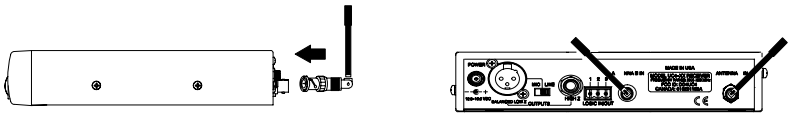
NOTE: Shure recommends using the optional UA220 Passive Antenna Splitter/Combiner to front mount antennas when two receivers are installed side by side.

RECEIVER ANTENNA INSTALLATION

Rear Mounted Antenna Installation

Attach the supplied UHF antennas to the BNC connectors on the receiver back panel, as shown in Figure 23. For best performance, point the antenna tips away from each other at a 90° angle (45° from vertical axis).

NOTE: For improved RF performance (3 dB additional gain), optional UA820A 1/2 wave antennas may be used.



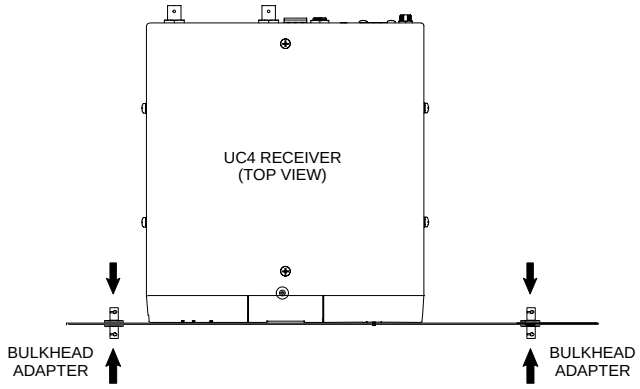
REAR MOUNTED ANTENNA INSTALLATION

FIGURE 23

Front Mounted Antenna Installation

NOTE: The UA600 Front Mount Antenna kit is sold separately.

1. Insert the two bulkhead adapters through the larger holes on each side of the front panel, and secure them from each side, using the supplied attaching hardware. See Figure 24.

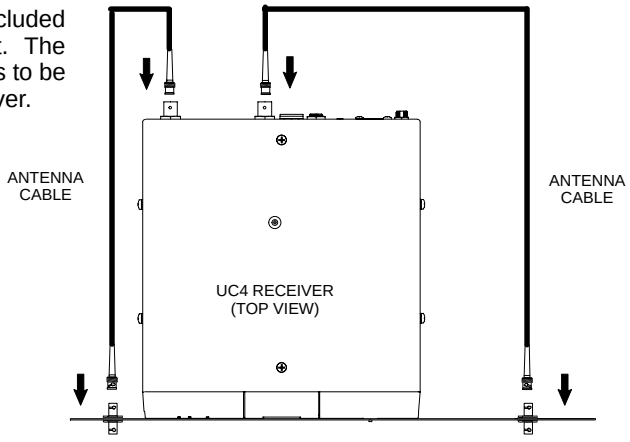


FRONT MOUNTED ANTENNA INSTALLATION

FIGURE 24

2. Connect antenna cables to the receiver and the bulkhead adapters, as shown in Figure 25.

NOTE: Two cable clamps are included with the supplied hardware kit. The clamps allows the antenna cables to be secured to the sides of the receiver.

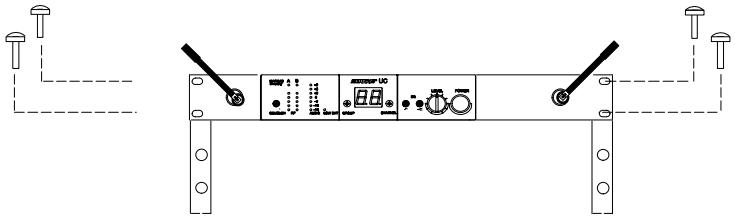


FRONT MOUNTED ANTENNA CABLE CONNECTIONS

FIGURE 25

NOTE: Shure recommends connecting the bulkhead adapter and antenna cables before mounting the receiver in a rack. Once the receiver is in the rack, it is more difficult to install the bulkhead adapters and antenna cables.

3. Attach the supplied UHF antennas to the BNC connectors on the front panel as shown in Figure 26. For best performance, orient the antennas with tips pointing away from each other at a 45° angle from vertical.



ATTACHING FRONT MOUNT ANTENNAS TO BNC CONNECTORS

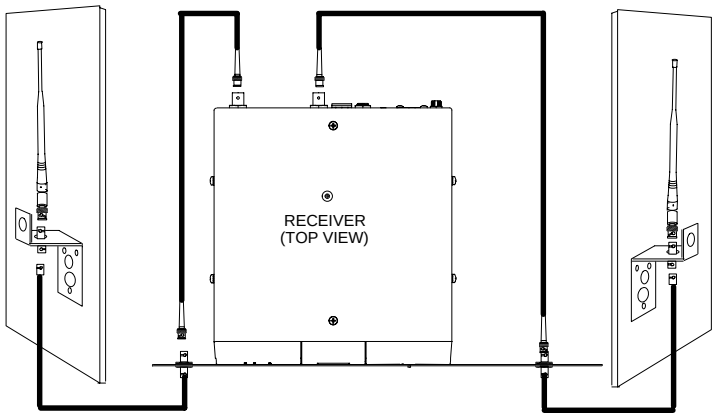
FIGURE 26

Remote Antenna Installation

NOTE: The UA500 Remote Mount Antenna kit is sold separately.

1. Insert the two bulkhead adapters through the larger holes on each side of the front panel, and secure them from each side, using the supplied attaching hardware. See Figure 27.
2. Connect antenna cables to the receiver and the bulkhead adapters.
3. Attach Shure UA825 or UA850 low–loss antenna cable (RG–8 or equivalent) to the bulkhead adapters.
4. Connect Shure UA820A 1/2 wave antennas to the end of the antenna cables (adapter required).
5. Mount the antennas using the Shure UA500 mounting brackets. For best RF performance, do not use the supplied 1/4 wave antennas when remoting antennas. Use UA820A 1/2 wave antennas.

NOTE: For improved performance, use the optional UA830A Line Amplifier with UA845 Distribution Amplifier.



INSTALLING REMOTE ANTENNAS

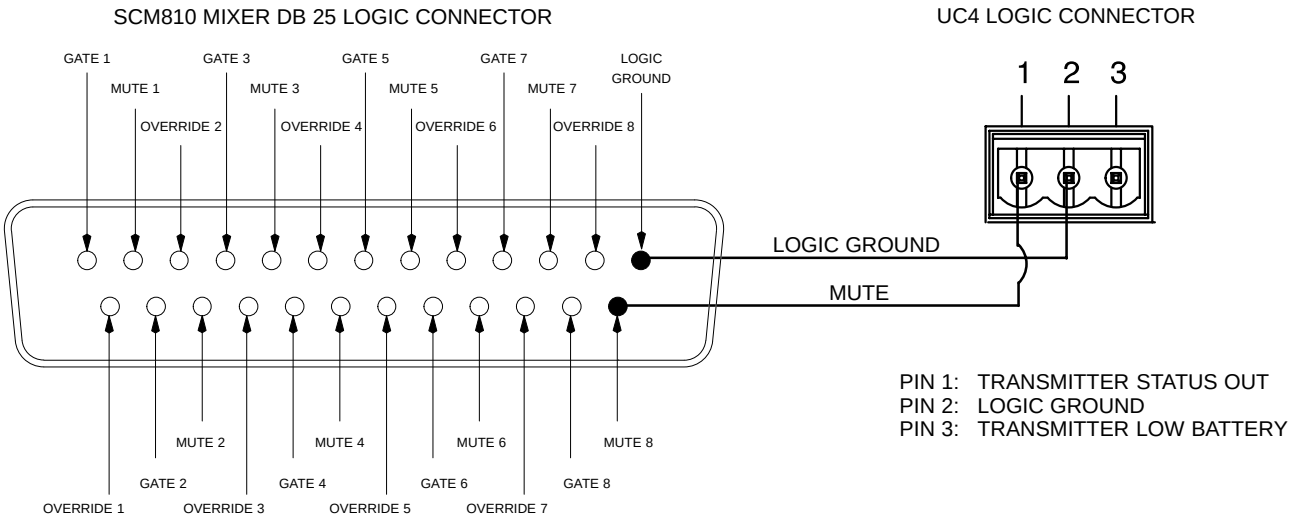
FIGURE 27

LOGIC CONNECTION SPECIFICATIONS

The logic capability of the UC4 receiver provides two functions: transmitter status indication (which can be used to signal and control other events) and transmitter low battery indication. The various logic functions and their applications are presented in the following table. Refer to Figure 28 below for pin mapping.

Pin No.	Function	Transmitter Status	Logic Level	Typical Applications	Connections
1	Signals or controls other events.	On Off	Low (0V) High (+5 V) 100 mA of current sinking provided.	• Drives a remote LED. • Provides remote indication of transmitter status when used with a Room Control System (i.e., Crestron or AMX) • Activates external equipment (equalizer, signal processor, loudspeakers, etc.) when used with a Room Control System. • Transmitter status control muting/unmuting of an input channel on automatic mixer. Used with automatic mixers, such as Shure Model SCM810	Tie the transmitter status pin to podium mic mute input terminal on the automatic mixer Tie receiver logic ground to mixer logic ground.
2	Logic Ground*	––	––	––	Make all logic ground connections to this pin, including the power supply ground of external logic circuitry. To avoid switching noise, do not connect logic ground to audio, chassis, or rack grounds.
3	Remote indication of transmitter battery status.	Good Battery (1–8 hours of battery life remaining) Low Battery (1 hour of less of battery life remaining)	Low (0 V) High (+5 V)	• Drives a remote LED to light when battery is low. • Indicates low transmitter battery status on remote control panel when used with a Room Control System.	

*Logic ground is distinct from UC4 audio ground.



TYPICAL UC4 CONNECTIONS TO SCM810 MIXER LOGIC CONNECTOR

FIGURE 28

NOTE: For more information on logic functions, please contact the Shure Applications Department.

TIPS FOR ACHIEVING OPTIMUM PERFORMANCE

- Maintain a line of sight between the transmitter and receiver antennas.
- Avoid placing transmitter and receiver where metal or other dense materials may be present.
- Avoid placing the receiver near computers or other RF generating equipment.
- Avoid placing the receiver in the bottom of an equipment rack unless the antennas are remotely located.
- Use the proper receiver antennas.
- Point the receiver antenna tips away from each other at a 45° angle from vertical, and keep them away from large metal objects.
- Do not obstruct the receiver antennas.
- Use the proper cable when remotely locating receiver antennas. For best performance, use Shure UA825 or UA850 low loss coaxial antenna cable, or 50 Ω low loss cable such as RG8.
- Use Shure UA820 1/2 Wave Antenna and UA830 Active Remote Antenna Kits, along with Shure UA845 Antenna Distribution System for remote antenna placement.
- Mount diversity antennas at least 1/4 wave apart. This can be achieved by remote placement of one or both 1/2 wave antennas using Shure UA825 or UA850 low loss coaxial cable and a Shure UA830 Active Remote Antenna Kit in conjunction with a Shure Antenna Distribution System. For multiple system installations, use the Shure UA845 Antenna/Power Distribution System.

TROUBLESHOOTING

Some common problems and their solutions are identified in the table below. If you are unable to solve a problem, contact your dealer or the Shure Service Department at 1-800-516-2525 (7:30 am to 4:00 pm, Central Standard Time). In Europe, call 49-7131-72140; other international users call Shure in the U.S.A. at 847-600-2000.

Problem	Solution
No sound; receiver RF LED(s) and AUDIO LEDs not glowing.	Make sure transmitter and receiver are turned on. Check transmitter Power/Battery Fuel Gauge. Replace battery if necessary. Make sure transmitter and receiver frequency Group/Channel settings are identical. Check receiver squelch setting. Check receiver antenna connection(s). Make sure at least one antenna is in the line of sight of the transmitter. If necessary, reduce the distance between transmitter and receiver.
No receiver sound; RF and AUDIO level meter LEDs glowing.	Turn up the receiver audio output Level control. Check for proper connection between receiver and microphone mixer. Talk into the microphone and observe the receiver audio level LEDs. If they glow, the problem is elsewhere in the sound system.
Received signal is noisy or contains extraneous sounds with transmitter on.	Check transmitter Power/Battery Fuel Gauge and replace battery if power is low. Remove local sources of RF interference, such as lighting equipment. If using a guitar or other instrument, make sure it is connected to the UC1 with a Shure WA302 adapter cable. Two transmitters may be operating on the same frequency. Locate and turn one off or change frequency. Signal may be too weak. Reposition antennas closer to the transmitter. Adjust receiver squelch control.
Noise from receiver with transmitter off.	Adjust receiver squelch control. Remove local sources of RF interference, such as lighting equipment. Try using another frequency. Reposition the receiver or antennas. Turn the receiver off when not in use.
Momentary loss of sound as transmitter is moved around performing area.	Reposition receiver and perform another “walkthrough” test and observe the RF level or Diversity signal indicators. If audio dropouts persist, mark these “dead spots” in the performing area and avoid them during the performance. Decrease squelch control setting, even though noise in “dead spots” may increase slightly. Move antennas to a remote location.

CERTIFICATION

UC1 and UC2 Transmitters: Type accepted under FCC Part 74. Certified by IC in Canada under RSS-123 and RSS-102. Conforms to European ETSI Standards EN-300 422. Meets Requirements of EMC Standard EN 301 489 Parts 1 and 9.

UC4 Receiver: Authorized under the Declaration of conformity provision of FCC Part 15. Certified by IC in Canada under RSS-123. Meets Requirements of EMC Standard EN 301 489 Parts 1 and 9.

Shure Models UC1 and UC2 Transmitters meet the essential requirements of the European R&TTE Directive 99/5/EC and are eligible to carry the CE marking. CE **0682** ⓘ

Shure Model UC4 Receivers meet the essential requirements of the European R&TTE Directive 99/5/EC and are eligible to carry the CE marking. CE

PS40 Power Supply: Conforms to safety standard UL1310. Canada/CSA 22 2 No. 223.

PS40E Power Supply: Conforms to safety standard EN 60950

PS40UK Power Supply: Conforms to safety standard EN 60950 and BS 7002.

THIS RADIO EQUIPMENT IS INTENDED FOR USE IN MUSICAL PROFESSIONAL ENTERTAINMENT AND SIMILAR APPLICATIONS.

NOTE: THIS RADIO APPARATUS MAY BE CAPABLE OF OPERATING ON SOME FREQUENCIES NOT AUTHORIZED IN YOUR REGION. PLEASE CONTACT YOUR NATIONAL AUTHORITY TO OBTAIN INFORMATION ON AUTHORIZED FREQUENCIES FOR WIRELESS MICROPHONE PRODUCTS IN YOUR REGION

Frequency Range of Apparatus: 774 MHz–862 MHz

Licensing: A ministerial license to operate this equipment may be required in certain areas. Consult your national authority for possible requirements.

Shure Transmitters Models UC1 and UC2 may be used in the countries and frequency ranges listed in Table 1.

SPECIFICATIONS

For product specifications, refer to the supplement that came with your system.

LICENSING INFORMATION

Changes or modifications not expressly approved by Shure Incorporated could void your authority to operate the equipment. Licensing of Shure wireless microphone equipment is the user's responsibility, and licensability depends on the user's classification and application, and on the selected frequency. Shure strongly urges the user to contact the appropriate telecommunications authority concerning proper licensing, and before choosing and ordering frequencies other than standard frequencies.

LIMITED WARRANTY

Shure Incorporated ("Shure") hereby warrants that this product will be free from defects in materials and workmanship for a period of two years from the date of purchase for all cartridge and housing assembly parts and for a period of two years from the date of purchase for all transmitter parts. At its option Shure will repair or replace the defective product and promptly return it to you, or refund the purchase price. You should retain proof of purchase to validate the purchase date and return it with any warranty claim.

If you believe this product is defective within the warranty period, carefully repack the unit, insure it, and return it postage prepaid to:

Shure Incorporated
Attention: Service Department
5800 W. Touhy Avenue
Niles, Illinois 60714-4608 U.S.A.

Outside the United States, return the product to your dealer or Authorized Service Center.

This warranty does not apply in cases of abuse or misuse of the product, use contrary to Shure's instruction, or unauthorized repair. All implied WARRANTIES OF MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE are hereby disclaimed and Shure hereby disclaims liability for incidental, special, or consequential damages resulting from the use or unavailability of this product.

Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you. This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

THIS WARRANTY SUPERSEDES ALL WARRANTIES THAT ARE INCLUDED WITH THIS PRODUCT

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